



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 10

1200 Sixth Avenue
Seattle, WA 98101

Reply To
Attn Of: ECL-115

February 8, 2007

Kevin Parrett
DEQ Northwest Region
Portland Harbor Section
2020 SW Fourth Ave., Suite 400
Portland, OR 97201

RE: EPA comments on *Pilot Study Work Plan for End-of-Pipe Stormwater Treatment, Oregon Steel Mills, Inc.* (February 2, 2007)

Dear Mr. Parrett:

EPA has reviewed the above referenced report and provides the following comments to DEQ as the lead agency for the uplands portion of the Portland Harbor Superfund Site. This document was reviewed as to whether the stormwater treatment design has the potential for current releases or future releases of contaminants to the Willamette River. While the report did not clearly articulate the design plan, EPA is keeping its comments to the content of the design rather than the format or presentation of information within the document.

Overall Comment

1. This document does not discuss the contaminants of concern from the stormwater discharge, current discharge conditions (Why is it a problem?) or the design criteria (effluent quality/performance goals) from this treatment system.
2. There is no discussion in this document about cleanout procedures for sludges accumulated in the Vortech or the earthen basin.

Section 2 Objectives

1. Page 2-1, 2nd paragraph. The goal of source control includes human health.
2. Page 2-1. In order to meet the criteria for source control listed in the bullets, loading rates of chemicals in both the water phase and particulate phase of the discharge need to be measured. Has Oregon Steel Mills (OSM) conducted a recontamination assessment? If not, they should consider this for establishing design criteria for this system or risk having to modify it in the future.

3. Page 2-1, 3rd paragraph. It was not clear as to the purpose of this paragraph other than to establish design criteria for this system. While EPA agrees that AWQCs should be used for the criteria in the first bullet, the Portland Harbor Joint Source Control Strategy has Screening Level Values for stormwater sediment that should be used for a recontamination analysis. Just as a note, mass loading limits are only giving in NPDES permits; most stormwater NPDES permits do not have loading limits.
4. Page 2-1, 4th paragraph. What is meant by “recontamination and bioaccumulation pathway criteria equivalent?” Are these Preliminary Remediation Goals (PRGs)?

Section 3 Engineering Design

1. Page 3-1, 1st paragraph. This paragraph discusses performance goals; however, this section does not provide those performance goals. How were the performance goals established? How will they meet the source control criteria discussed in Section 2?
2. Page 3-1, Section 3.1. The design presented only has one pond for clarification process. Per the DEQ guidance cited (and other industrial wastewater treatment textbooks), three tanks or ponds are needed to perform flocculation and a fourth tank or pond may be used for mixing. The main reason that multiple ponds are necessary for flocculation to work is that stormwater runoff rates are erratic, which makes inline treatment difficult since the volume of chemical coagulant would change with the change in runoff rates during a storm event. When there is a detention pond, the flow rates can be regulated and the treatment process is easier to maintain and more effective treatment occurs.
3. Page 3-2, 1st sentence. Are the chemical metering pumps flow controlled? If not, how will they account for the variation in runoff flow rates?
4. Page 3-2, 1st paragraph. How will they maintain an operating depth of 5.5 ft? What if there are several storm events that provide low runoff rates? Will this water just infiltrate or will it be retained in the basin long enough for treatment?
5. Page 3-2, Section 3.3. What is the design storm event: a 50-year storm, a 100-year storm? It seems that there have been much higher storm events in Portland than 0.19 in/hr, especially in the period of October through December. What will happen if the rain event exceeds the capacity of this treatment system? Is there a by-pass? If so, where is it located? What will be the effluent quality if this occurs? Will that effluent quality result in recontamination of an in-water remedy?
6. Page 3-3, 1st paragraph. The equations for the calculations in Tables 3-1 and 3-2 need to be provided in the text.
7. Page 3-3, 2nd paragraph. EPA strongly urges OSM to line the pond prior to stormwater treatment. There are chemical constituents that are hazardous chemicals (e.g., PCBs) that will need to be removed from the treatment pond and adequately disposed. If the pond is not lined, then there is no reasonable assurance that appropriate removal and disposal will occur. Additionally, it is likely that the sludges will be regulated under TSCA; EPA is currently looking into this matter.
8. Page 3-3, last paragraph, 5th sentence. In this sentence, testing with concentrated polymeric coagulants is discussed. Was the purpose of this testing to determine optimal injection rates?

Section 4 Operations, Inspections and Maintenance

1. Page 4-1, 1st paragraph. This paragraph indicates that there are two full-time wastewater treatment operators. Are these operators only on-site Monday through Friday from 8 AM to 5 PM or do they work staggering shifts? What contingencies are there for operational upsets that occur on weekends?
2. Page 4-1, Section 4.1, 1st paragraph. There is no discussion of the CO₂ injection system operations or the Vortechs system operations.
3. Page 4-1, Section 4.1, 2nd paragraph. It is not clear what part of the system these lift stations are associated with and its purpose – I'm assuming it is after the Vortechs system to convey the water to the earthen basin (clarifying pond).
4. Page 4-1, Section 4.1, last paragraph. It is not clear what will trigger the chemical coagulant injection. Are the doses flow-weighted? Will they only occur during certain flow events?
5. Page 4-1, Section 4.2, 1st sentence. This sentence indicates that inspections will occur regularly during periods of appreciable stormwater runoff. What is meant by this statement? How often will that occur? I would suggest that they establish a routine inspection during the wet-weather period (October through May) of once per week and once per month in the dry-weather period (June through September) to ensure that the system is prepared for any upcoming storm event.
6. Page 4-2, Section 4.2, last bullet. It is unclear whether the effluent from the earthen basin will occur at the top or bottom elevation of the basin. If it is at the bottom, how will the effluent be observed?

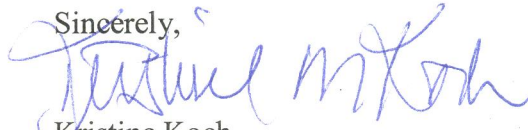
Section 5 Monitoring

1. Page 5-1, 1st paragraph. Monitoring under OSM's 1200-Z discharge permit is not adequate to characterize discharge of hazardous contaminants from this site. The discharge permit only requires monitoring of copper, lead, zinc, TSS, oil and grease, and pH. In-river sediments adjacent to this site show elevated levels of cadmium, chromium, copper, lead, nickel, zinc, PCBs, chlorinated pesticides, PAHs, phthalates, phenols and dioxins. Since the stormwater permit may not be adequate to control this discharge to meet the criteria for source control (page 2-1), the discharge should be monitored for the contaminants elevated in river sediments to determine if additional requirements are necessary or if the treatment system is adequate to control this discharge and allow OSM to retain coverage under the 1200-Z permit.
2. Page 5-1, Section 5.1. I'm not quite sure how this operational monitoring will aid in evaluating and optimizing system operations. If the intent is to control solids and pH, then this is fine, but if the intent is to determine if design criteria (e.g., effluent chemistry, removal efficiency of contaminants) are met then influent and effluent chemistry should also be conducted periodically.
3. Page 5-3, Section 5.2. Stormwater monitoring under the 1200-Z permit is not adequate to establish accurate loading rates of contaminants from this site to the Willamette River. EPA maintains that all stormwater discharges should be monitored using the LWG stormwater methodology presented in their EPA approved Field Sampling Plan (February 2007).

4. Page 5-4, Section 5.2.2. The sampling methodology presented in this section is not sufficient to determine recontamination and risk to the Portland Harbor Superfund site. The methodology for DEQ's Framework for Portland Harbor Stormwater Screening Evaluations is for source tracing purposes. This site has already traced sources and determined that end-of-pipe treatment is required. In order to determine if this treatment is adequate to reduce risk and prevent recontamination to the Portland Harbor Superfund site, loading rates of contaminants in the discharge need to be measured. Therefore, the methodology presented in LWG's EPA approved Field Sampling Plan (February 2007) is appropriate for this discharge.
5. Page 5-4, Section 5.2.2, Grab Sample Procedure. Grab samples would only be representative of this discharge if OSM could show that the effluent quality from the discharge would be relatively constant ($CV < 0.2$).
6. Page 5-4, Section 5.2.2, Analytical Procedures. As discussed in comment #1 of this section, analysis of cadmium, chromium, nickel, PCBs, chlorinated pesticides, PAHs, phthalates, phenols and dioxins should also be included.

If you have any questions or would like to discuss the contents of this letter further, please feel free to contact me at (206) 553-6705.

Sincerely,



Kristine Koch

Remedial Project Manager